Industry Wage Survey: Synthetic Fibers August 1981

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Preface

This bulletin summarizes the results of a Bureau of Labor Statistics survey of wages and employee benefits in the synthetic fibers manufacturing industry in the South during August 1981. A similar survey was conducted in August 1976.

The study was conducted in the Bureau's Office of Wages and Industrial Relations. Carl F. Prieser of the Division of Occupational Pay and Employee Benefit Levels analyzed the survey data and prepared this bulletin. The Bureau's field representatives obtained the data through personal visits to establishments within the scope of the survey. Fieldwork for the survey was directed by the Bureau's Assistant Regional Commissioners for Operations.

Other reports currently available from the Bureau's industry wage survey program and the addresses of its regional offices are listed at the end of this bulletin.

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Synthetic Fibers, August 1981

Earnings and benefits

Straight-time earnings of production and related workers in southern synthetic fibers manufacturing plants averaged $7.82 per hour in August 1981 (table 1). The middle 50 percent of the 58,233 workers covered by the survey[1] earned between $6.69 and $9.00. Eighty-five percent of the workers were employed in plants primarily producing noncellulosic fibers such as nylon; they averaged $8.01 per hour. The remaining workers were in plants primarily producing cellulosic fibers (e.g., rayon); they averaged $6.66 per hour.

The $7.82 overall average was an increase of 54 percent, or an annual rate of 9 percent, since a previous study of the industries conducted in August 1976.[2] In comparison, the Bureau's Employment Cost Index for nondurable goods manufacturing rose 48 percent, 8.1 percent a year, from the third quarter 1976 to third quarter 1981.

Earnings data were developed for twenty-five occupations chosen to represent the various skill levels and activities in the synthetic fibers manufacturing industry.[3] These occupations accounted for two-thirds of the production workers covered by the survey.

In cellulosic fibers plants, average hourly earnings ranged from $6.03 for guards to $7.79 for general mechanics. Several maintenance jobs, including carpenters, electricians, instrument repairers, millwrights, and pipefitters, averaged between $7.22 and $7.43 per hour. Outside the maintenance department, wet-process spinners, at $6.89, recorded the highest average. Chemical operators, numerically the largest group studied, averaged $6.76.

Average earnings in noncellulosic fibers plants ranged from $6.52 for yarn winders to $10.26 for maintenance machinists and $10.29 for general mechanics. Other job averages above $9 an hour were all in the maintenance department, and ranged from $9.62 (electricians) to $9.94 (carpenters). Laboratory assistants, at $8.50 per hour, were the next highest paid. Dry-process spinners, numerically the largest group studied, averaged $8.35 an hour, 7 percent more than their counterparts using a wet process ($7.77). Chemical operators averaged $8.34.

Where comparisons were possible, occupational averages were always higher in noncellulosic fibers manufacturing than in cellulosics establishments (table 3). The average wage advantage for noncellulosic workers ranged from nine cents for creel tenders ($6.59–$6.50) to $3.04 for maintenance machinists ($10.26–$7.22). Average differentials between the two industries were $2 or more for maintenance trades workers, and typically were between about 50 cents and $1.50 for those employed in processing, testing, material movement, and custodial occupations.

Where comparisons were possible in noncellulosic fibers plants, occupational averages were typically 7 to 15 percent higher in plants with 1,000 or more workers than in those with fewer than 1,000 (table 4). Occupational averages were also typically higher in nonmetropolitan areas than in larger communities and in plants with no collective bargaining agreements covering a majority of workers than in plants having such coverage. These latter relationships reversed those generally found in BLS occupational wage surveys, and are due principally to the concentration in this industry of large, high-paying plants in rural areas of North and South Carolina, Tennessee, and Virginia. (Such comparisons did not meet publication criteria in the cellulosics fibers sector.)

All workers covered by the survey were in establishments providing paid holidays (table 8). One-half of the workers received 11 days per year, slightly more than one-third received 9 days, and most of the remainder, 8, 10, or 12 days. Holiday provisions were somewhat more liberal in noncellulosic fibers plants, where three-fifths of the workers received 11 or 12 days. Less than one tenth of the cellulosic workers received more than 10 days.

All of the surveyed workers were also provided paid vacations after qualifying periods of service (table 9). Typical provisions in noncellulosics plants were 2 weeks vacation after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, 5 weeks after 20 years, and 6 weeks after 30 years of service. Typical vacation provisions in cellulosics plants were less generous, for example, 3 weeks after 10 years.

Establishments providing life, hospitalization, surgical, basic medical insurance, and either sick leave or sickness and accident insurance employed virtually all

[1] See appendix A for scope and method of survey. Workers in the South accounted for over 95 percent of the industry's work force, according to the Bureau's 1976 survey. Wage data in this bulletin exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] See *Industry Wage Survey: Synthetic Fibers, August 1976*, Bulletin 1975, (Bureau of Labor Statistics, 1977).

[3] See appendix B for occupational descriptions.

production workers covered by the survey (table 10). Four-fifths of the workers received accidental death and dismemberment coverage in addition to their regular life insurance. Slightly over three-fifths received long-term disability and major medical insurance. Retirement pension plans, in addition to social security, were also available to virtually all the workers. Employers typically paid the entire cost of these pension and health insurance plans. The former plans usually covered employees and their dependents.

All workers were eligible for time off with pay to attend funerals of family members and to serve on juries (table 11). Two-thirds in cellulosics plants and one-fifth in noncellulosics were covered by provisions for technological severance pay. Slightly over one-half of the workers in each industry were in establishments providing paid lunch periods for a majority of fixed day-shift workers.

Industry characteristics

The survey covered establishments engaged in the production of the two principal types of synthetic fibers suitable for further manufacturing on textile processing machinery. Cellulosic fibers, such as rayon and acetate, are manufactured from cellulose, a fibrous substance usually obtained from wood pulp or similar materials. Noncellulosic fibers are derived from chemical compounds; acrylic, nylon, and polyester are included in this group. Establishments in the survey generally limited their production to one of these major types of fibers.

Establishments within the scope of the survey employed an estimated 58,000 production workers in the South; all but 8,100 workers were employed in noncellulosic fibers plants. Continuing a long-term trend, employment in the cellulosic sector has declined to half its December 1970 level.[4] Cellulosic fibers such as rayon and acetate are being replaced by noncellulosic fibers such as polyester. Employment in the noncellulosic sector has remained fairly constant over the same period.

Slightly more than nine-tenths of the cellulosics work force and three-fourths of the noncellulosics were employed in nonmetropolitan areas. Large establishments (1,000 employees or more) accounted for nearly nine-tenths of the workers in each industry.

Virtually all cellulosic fibers plants studied had collective bargaining agreements covering a majority of workers. Noncellulosics plants employing approximately one third of that industry's work force had such agreements. The major unions in the industries are the Amalgamated Clothing and Textile Workers Union and the United Textile Workers of America, both affiliates of the AFL-CIO.

Virtually all workers in the survey were paid time-rates, usually under formal plans providing single rates for specific occupations in noncellulosic fibers plants and a range of rates in cellulosic plants (table 5). Incentive workers accounted for about 2 percent of the work force.

Four-fifths of the workers on day shifts were scheduled to work forty hours a week (table 6). Almost all of the remaining workers were scheduled for between 40 and 45 hours.

Shift work is widely used because of the continuous nature of synthetic fibers manufacturing operations. Slightly over three-fifths of the production workers were employed on rotating shifts during August 1981 (table 9). These workers were usually assigned to day, evening, and night shifts on successive weeks or months. Workers on the evening and night schedules almost always received pay differentials over fixed day-shift rates. Fewer than 2 percent of the workers were assigned to fixed late shifts. Shift differentials varied considerably. Establishments paid workers between 9 cents and 35 cents more per hour for an evening shift and between 10 cents and 40 cents more per hour for a night shift. Some establishments provided a paid lunch period not given day-shift workers. Other workers received a fixed percentage of their hourly rate, generally 10 percent.

[4] See *Industry Wage Survey: Synthetic Fibers*, December 1970, Bulletin 1740, (Bureau of Labor Statistics, 1972).

Table 1. Earnings distribution— Selected characteristics

(Percent distribution of production workers in synthetic fibers manufacturing establishments by straight-time hourly earnings[1] and selected characteristics, South,[2] August 1981)

Hourly earnings	All establishments	Principal product		Size of establishment		Size of community		Labor-management contract coverage	
		Cellulosic fibers	Noncellulosic fibers	Fewer than 1,000 workers	1,000 workers or more	Metropolitan areas[3]	Nonmetropolitan areas	Majority of workers covered	None or minority covered
Number of workers	58,238	8,119	50,119	7,110	51,128	13,351	44,887	25,698	32,540
Average hourly earnings	$7.82	$6.66	$8.01	$7.08	$7.92	$7.70	$7.86	$7.51	$8.07
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $4.00	.1	-	.1	.4	-	.2	-	-	.1
$4.00 and under $4.25	(4)	-	(4)	.2	-	.1	-	-	(4)
$4.25 and under $4.50	.1	.1	.1	1.0	(4)	.5	-	(4)	.2
$4.50 and under $4.75	.1	.6	(4)	1.0	-	.5	-	.2	.1
$4.75 and under $5.00	.3	.4	.3	1.5	.2	.8	.2	.6	.1
$5.00 and under $5.25	1.3	6.3	.2	1.5	1.3	.8	1.4	2.7	.2
$5.25 and under $5.50	.9	5.3	.1	1.1	.8	.6	.9	1.9	.1
$5.50 and under $5.75	.6	2.0	.3	1.6	.4	1.4	.3	1.2	(4)
$5.75 and under $6.00	4.4	1.2	5.0	4.6	4.4	2.5	5.0	9.2	.7
$6.00 and under $6.25	6.5	4.3	6.8	7.3	6.3	17.4	3.2	9.1	4.4
$6.25 and under $6.50	3.8	5.2	3.8	5.1	3.7	2.6	4.2	5.2	2.7
$6.50 and under $6.75	11.3	24.5	9.2	24.8	9.5	10.2	11.7	9.7	12.6
$6.75 and under $7.00	4.4	20.9	1.8	7.3	4.0	3.5	4.7	8.6	1.2
$7.00 and under $7.25	6.7	6.6	6.7	2.8	7.3	4.8	7.3	2.5	10.1
$7.25 and under $7.50	8.2	8.0	8.2	6.3	8.4	1.9	10.0	6.8	9.2
$7.50 and under $7.75	4.1	9.1	3.2	13.7	2.7	.5	5.1	5.6	2.9
$7.75 and under $8.00	3.9	.3	4.5	1.1	4.3	10.8	1.8	1.2	6.0
$8.00 and under $8.25	9.8	1.0	10.0	2.1	9.7	1.1	11.0	6.4	10.6
$8.25 and under $8.50	1.0	(4)	1.2	2.0	.9	1.4	.9	.7	1.3
$8.50 and under $8.75	3.8	-	4.4	2.7	4.0	11.4	1.6	1.7	5.5
$8.75 and under $9.00	2.5	-	2.9	.7	2.8	4.3	2.0	5.1	.5
$9.00 and under $9.25	12.6	.1	14.6	4.0	13.8	6.9	14.3	8.9	15.5
$9.25 and under $9.50	1.2	2.2	1.1	2.7	1.0	3.1	.7	1.5	1.0
$9.50 and under $9.75	.2	-	.2	.6	.1	.7	(4)	.3	(4)
$9.75 and under $10.00	3.6	-	4.2	2.6	3.7	2.0	4.1	3.5	3.7
$10.00 and under $10.25	.4	-	.5	-	.5	1.6	.1	.1	.6
$10.25 and under $10.50	.4	-	.5	.1	.5	1.9	-	1.0	-
$10.50 and under $10.75	2.5	-	3.0	.1	2.9	5.4	1.7	3.0	2.2
$10.75 and under $11.00	6.1	-	7.1	1.0	6.8	.9	7.7	3.2	8.4
$11.00 and over	.1	-	.1	-	.1	.3	-	-	.1

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For definition of the South, see appendix table A-1, footnote 1.

[3] Standard Metropolitan Statistical Areas, as defined by the U.S. Office of Management and Budget through February 1974.

[4] Less than .05 percent.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 2. Earnings distribution— Selected occupations

(Percent distribution of production workers in selected occupations in synthetic fibers manufacturing establishments by straight-time hourly earnings,[1] South,[2] August 1981)

Hourly earnings	General mechanics	Chemical operators, cellulosic fibers	Chemical operators, noncellulosic fibers	Spinners, dry process	Creel tenders	Drawtwist operators	Throwers	Tow operators	Warper operators	Yarn winders	Laboratory assistants	Material handling laborers
Number of workers	4,[illegible]	771	3,416	8,288	1,341	1,501	475	3,579	1,593	1,957	1,212	1,222
Average hourly earnings	$10.[illegible]	$8.76	$8.34	$8.24	$6.58	$7.07	$6.56	$7.21	$7.27	$6.49	$8.37	$6.43
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $4.00	-	-	-	-	-	.3	-	-	-	.4	-	-
$4.00 and under $4.25	-	-	-	-	-	-	-	-	-	.2	-	-
$4.25 and under $4.50	-	-	-	-	-	1.9	-	-	-	.9	-	-
$4.50 and under $4.75	-	-	-	-	-	.3	-	-	-	.2	-	-
$4.75 and under $5.00	-	-	-	(3)	-	.3	-	-	-	.2	.1	-
$5.00 and under $5.25	-	3.9	-	(3)	2.1	.5	21.3	-	2.8	6.4	-	.4
$5.25 and under $5.50	.9	6.4	.1	-	-	2.5	-	-	-	.1	1.3	.2
$5.50 and under $5.75	.1	3.0	.2	-	.6	-	-	-	-	-	1.7	-
$5.75 and under $6.00	-	.1	-	-	21.4	20.6	-	-	10.7	22.7	.1	3.8
$6.00 and under $6.25	-	3.1	3.8	6.0	28.0	17.4	-	13.0	-	11.4	.9	24.9
$6.25 and under $6.50	(3)	9.1	2.4	3.0	-	-	-	1.9	-	6.7	1.1	42.7
$6.50 and under $6.75	.1	18.8	6.6	3.3	20.1	2.4	53.3	29.2	34.0	7.2	8.1	4.7
$6.75 and under $7.00	(3)	28.5	(3)	5.0	5.5	-	-	4.8	.1	10.0	1.7	5.9
$7.00 and under $7.25	.8	2.6	3.3	5.5	1.1	-	-	2.3	-	32.8	5.3	16.2
$7.25 and under $7.50	5.5	13.0	25.9	6.0	-	14.2	22.1	17.4	-	-	2.5	-
$7.50 and under $7.75	.9	6.5	2.6	5.4	-	-	-	.1	14.8	-	13.0	-
$7.75 and under $8.00	.1	-	6.0	2.0	19.2	20.4	-	-	25.2	-	.2	-
$8.00 and under $8.25	1.2	4.0	-	-	-	-	-	22.1	-	-	3.7	1.0
$8.25 and under $8.50	.6	-	.2	-	-	-	-	-	-	-	1.8	-
$8.50 and under $8.75	11.1	-	3.8	4.9	-	4.7	-	6.2	-	.9	-	.2
$8.75 and under $9.00	.3	-	-	6.9	1.9	14.7	3.4	1.8	5.9	-	7.4	-
$9.00 and under $9.25	.2	1.0	10.5	52.1	-	-	-	1.2	3.2	-	39.0	-
$9.25 and under $9.50	6.3	-	1.9	-	-	-	-	-	.1	-	6.8	-
$9.50 and under $9.75	.2	-	.7	-	-	-	-	-	.3	-	-	-
$9.75 and under $10.00	8.6	-	26.0	-	-	-	-	-	2.9	-	-	-
$10.00 and under $10.25	-	-	6.1	-	-	-	-	-	-	-	-	-
$10.25 and under $10.50	2.1	-	-	-	-	-	-	-	-	-	-	-
$10.50 and under $10.75	10.6	-	-	-	-	-	-	-	-	-	2.4	-
$10.75 and under $11.00	50.3	-	-	-	-	-	-	-	-	-	-	-
$11.00 and under $11.25	-	-	-	-	-	-	-	-	-	-	1.7	-
$11.25 and under $11.50	-	-	-	-	-	-	-	-	-	-	-	-
$11.50 and under $11.75	-	-	-	-	-	-	-	-	-	-	.5	-
$11.75 and under $12.00	-	-	-	-	-	-	-	-	-	-	-	-
$12.00 and over	-	-	-	-	-	-	-	-	-	-	.7	-

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] For definition of the South, see appendix table A-1, footnote 1.
[3] Less than .05 percent.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 3. Occupational averages: By principal product

(Number and average straight-time hourly earnings[1] of production workers in selected occupations in synthetic fibers manufacturing establishments by principal product, South,[2] August 1981)

Department and occupation	All establishments				Cellulosic fibers				Noncellulosic fibers			
	Number of workers	Hourly earnings[3]			Number of workers	Hourly earnings[3]			Number of workers	Hourly earnings[3]		
		Mean	Median	Middle range		Mean	Median	Middle range		Mean	Median	Middle range
All production workers	58,238	$7.82	$7.51	$6.89 - $9.00	8,119	$6.66	$6.73	$6.41 - $7.01	50,119	$8.01	$7.84	$6.71 - $9.00
Maintenance												
Carpenters, maintenance	131	8.96	9.86	7.34 - 10.56	47	7.22	7.34	7.28 - 7.47	[illegible]	9.94	9.86	9.86 - 10.74
Electricians, maintenance	754	9.24	9.49	7.59 - 10.74	121	7.28	7.58	7.34 - 7.63	633	9.62	10.27	7.84 - 10.74
Instrument repairers	415	9.37	10.56	7.58 - 10.74	85	7.33	7.59	7.34 - 7.63	330	9.90	10.56	9.49 - 10.74
Machinists, maintenance	262	9.57	10.27	7.84 - 10.80	59	7.22	7.59	7.34 - 7.65	203	10.26	10.56	9.90 - 10.80
Mechanics, general	4,973	10.00	10.80	9.25 - 10.80	576	7.79	7.41	7.34 - 9.25	4,397	10.29	10.80	9.97 - 10.80
Pipefitters, maintenance	431	8.49	7.63	7.58 - 10.27	230	7.43	7.58	7.34 - 7.63	201	9.70	10.27	7.58 - 10.94
Chemical preparation												
Chemical operators, cellulosic	771	6.76	6.80	6.41 - 7.23	771	6.76	6.80	6.41 - 7.23	-	-	-	- - -
Chemical operators, noncellulosic	3,416	8.34	7.80	7.25 - 9.86	-	-	-	- - -	3,416	8.34	7.80	7.25 - 9.86
Spinning												
Jet handlers	880	7.31	6.71	6.68 - 8.90	202	6.64	6.65	6.37 - 6.96	678	7.51	6.71	6.69 - 9.00
Spinners, dry process	8,288	8.24	9.00	7.25 - 9.00	618	6.89	6.82	6.82 - 7.01	7,670	8.36	9.00	7.51 - 9.00
Spinners, wet process	850	7.12	6.80	6.80 - 8.51	-	-	-	- - -	369	7.77	8.51	7.28 - 9.00
Finishing												
Creel tenders	1,341	6.58	6.21	6.02 - 6.92	153	6.50	6.72	6.72 - 6.72	1,188	6.59	6.21	6.02 - 7.19
Drawtwist operators (noncellulosic)	1,501	7.07	7.31	5.94 - 7.84	-	-	-	- - -	1,483	7.12	7.31	6.19 - 7.84
Throwers (twisters)	475	6.56	6.68	6.68 - 7.31	354	6.24	6.68	5.18 - 6.68	-	-	-	- - -
Tow operators	3,579	7.21	7.19	6.68 - 8.02	-	-	-	- - -	3,348	7.24	7.25	6.68 - 8.02
Warper operators	1,593	7.27	7.51	6.68 - 7.84	352	6.49	6.68	6.68 - 6.68	1,241	7.50	7.51	6.68 - 7.84
Washer operators	82	6.30	6.68	5.27 - 6.68	82	6.30	6.68	5.27 - 6.68	-	-	-	- - -
Winders, yarn	1,957	6.49	6.58	5.94 - 7.18	456	6.37	6.72	5.20 - 6.92	1,501	6.52	6.33	5.94 - 7.18
Inspection and testing												
Laboratory assistants	1,212	8.37	9.00	7.51 - 9.00	78	6.51	6.80	5.87 - 7.10	1,134	8.50	9.00	7.51 - 9.00
Physical test operators	1,523	7.20	7.80	6.31 - 8.02	153	6.39	6.80	6.54 - 6.65	1,370	7.29	7.84	6.31 - 8.02
Material movement												
Laborers, material handling	1,222	6.43	6.28	6.16 - 6.69	137	6.24	6.16	5.97 - 6.65	-	-	-	- - -
Stock clerks	240	7.88	7.83	6.91 - 9.00	77	6.77	6.80	6.80 - 6.92	163	8.40	8.80	7.80 - 9.00
Power-truck operators	1,117	7.40	6.97	6.73 - 8.23	258	6.65	6.75	6.73 - 6.76	879	7.60	7.80	6.79 - 8.23
Forklift	889	7.47	7.49	6.71 - 8.23	153	6.59	6.73	6.73 - 6.75	736	7.67	7.84	6.71 - 8.51
Other than forklift	218	7.09	6.79	6.76 - 7.26	-	-	-	- - -	143	7.25	7.26	6.79 - 8.00
Custodial												
Guards	274	7.57	7.91	6.89 - 8.01	29	6.03	5.95	5.44 - 6.56	245	7.75	8.01	6.89 - 8.01
Janitors	701	6.51	6.49	6.12 - 6.77	153	6.13	6.12	6.04 - 6.49	548	6.62	6.54	6.28 - 6.77

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For definition of the South, see appendix A-1, footnote 1.

[3] The mean is calculated by weighting each rate by the number of workers receiving the rate, totaling, and dividing by the total number of workers. The median designates position; that is, one-half of the employees surveyed received more than this rate and one-half received less. The middle range is defined by two rates of pay such that one-fourth of the employees earned less than the lower rate and one-fourth earned more than the higher rate.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Data for overall classifications may include data for subclassifications not shown separately.

Table 4. Occupational averages: Noncellulosic fibers by selected characteristcs

(Number and average straight-time hourly earnings[1] of production workers in selected occupations in noncellulosic synthetic fibers manufacturing establishments by principal product, South,[2] August 1981)

Department and occupation	Size of community				Size of establishment				Labor-management contract coverage			
	Metropolitan areas		Nonmetropolitan areas		Fewer than 1,000 workers		1,000 workers or more		Majority covered		None or minority covered	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
All production workers	12,664	$7.73	37,455	$8.10	6,080	$7.10	44,039	$8.13	17,579	$7.90	32,540	$8.07
Maintenance												
Carpenters, maintenance	28	9.23	-	-	8	9.97	76	9.94	47	9.80	-	-
Electricians, maintenance	88	9.35	445	9.74	40	8.62	593	9.69	468	9.55	165	9.83
Instrument repairers	-	-	-	-	-	-	320	9.95	-	-	-	-
Machinists, maintenance	69	9.80	134	10.49	-	-	177	10.29	56	9.90	147	10.39
Mechanics, general	-	-	3,730	10.34	317	9.68	4,080	10.34	-	-	-	-
Pipefitters, maintenance	53	9.66	-	-	-	-	190	9.70	200	9.70	-	-
Chemical preparation												
Chemical operators, noncellulosic	1,076	8.34	2,340	8.35	263	7.81	3,153	8.39	800	8.50	2,616	8.30
Spinning												
Jet handlers	-	-	446	7.84	-	-	567	7.66	69	7.51	609	7.51
Spinners, dry process	1,745	7.35	5,925	8.64	-	-	7,038	8.44	-	-	5,679	8.28
Spinners, wet process	317	7.88	-	-	252	7.32	-	-	-	-	271	7.35
Finishing												
Creel tenders	548	6.76	640	6.44	497	6.29	691	6.80	348	6.28	840	6.71
Drawtwist operators (noncellulosic)	905	7.49	556	6.51	238	6.59	1,225	7.22	660	6.98	603	7.31
Tow operators	-	-	2,194	7.37	-	-	3,090	7.24	481	7.51	2,955	7.20
Warper operators	-	-	769	7.18	-	-	960	7.42	367	7.64	874	7.43
Winders, yarn	226	6.03	1,275	6.61	270	6.13	-	-	-	-	-	-
Inspection and testing												
Laboratory assistants	362	8.47	772	8.51	-	-	930	8.71	350	8.51	784	8.50
Physical test operators	337	7.03	1,033	7.38	17	5.25	1,353	7.32	627	6.96	743	7.57
Material movement												
Stock clerks	-	-	-	-	-	-	132	8.69	24	8.02	139	8.47
Power-truck operators	275	7.80	601	7.50	171	6.76	708	7.80	554	7.65	325	7.51
Forklift	398	7.84	470	7.57	159	6.73	577	7.92	476	7.65	260	7.70
Custodial												
Guards	-	-	135	8.56	-	-	241	7.75	-	-	179	7.41
Janitors	114	7.26	434	6.45	-	-	532	6.56	-	-	-	-

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] For definition of the South, see appendix A-1, footnote 1.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Data for overall classifications may include data for subclassifications not shown separately.

Table 5. Method of wage payment

(Percent of production workers in synthetic fibers manufacturing establishments by method of wage payment,[1] South,[2] August 1981)

Method	All establishments	Cellulosic	Noncellulosic
All workers	100	100	100
Time-rated workers	98	99	98
Formal plans	97	99	97
Single rate	74	37	79
Range of rates	24	62	18
Individual rates	(3)	(3)	(3)
Incentive workers	2	1	2

[1] For definition of method of wage payment, see appendix A.

[2] For definition of the South, see appendix table A-1, footnote 1.

[3] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 6. Scheduled weekly hours

(Percent of production workers in synthetic fibers manufacturing establishments by scheduled weekly hours, [1]South,[2] August 1981)

Weekly hours	All establishments	Cellulosic	Noncellulosic
All workers	100	100	100
Under 37.5 hours	(3)	-	(3)
40 hours	82	72	84
Over 40 and under 45 hours	17	28	16

[1] Data relate to the predominant schedule for full-time day-shift workers in each establishment.

[2] For definition of the South, see appendix table A-1, footnote 1.

[3] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 7. Shift differential practices

(Percent of production workers in synthetic fibers manufacturing establishments assigned to selected shifts[1] by type of shift and amount of shift differential, South,[2] August 1981)

Shift differential	All establishments					Cellulosic			Noncellulosic				
	Rotating shifts			Fixed shifts		Rotating shifts			Rotating shifts			Fixed shifts	
	Day	Evening	Night	Evening	Night	Day	Evening	Night	Day	Evening	Night	Evening	Night
Workers on late shifts	21.0	21.0	20.9	1.1	(3)	20.9	20.6	20.4	21.0	21.0	21.0	1.3	(3)
Receiving differential	2.6	19.2	19.1	1.1	(3)	1.6	20.6	20.4	2.6	18.9	18.9	1.3	(3)
Uniform cents per hour	-	10.4	10.4	1.1	-	-	17.2	17.0	-	9.3	9.3	1.3	-
Under 10 cents	-	1.7	-	-	-	-	12.3	-	-	-	-	-	-
10 cents	-	.5	-	-	-	-	-	-	-	.6	-	-	-
Over 10 and under 15 cents	-	-	1.7	-	-	-	-	12.1	-	-	-	-	-
Over 15 and under 20 cents	-	.7	.7	-	-	-	4.9	4.9	-	-	-	-	-
20 cents	-	-	.2	-	-	-	-	-	-	-	.3	-	-
Over 20 and under 25 cents	-	.1	-	-	-	-	-	-	-	.1	-	-	-
25 cents	-	-	-	.1	-	-	-	-	-	-	-	.2	-
Over 25 and under 30 cents	-	.4	-	(3)	-	-	-	-	-	.4	-	(3)	-
30 cents	-	6.4	-	-	-	-	-	-	-	7.4	-	-	-
Over 30 and under 35 cents	-	-	.4	-	-	-	-	-	-	-	.5	-	-
35 cents	-	.6	1.9	-	-	-	-	-	-	.6	2.2	-	-
Over 35 and under 40 cents	-	-	.4	-	-	-	-	-	-	-	.4	-	-
40 cents	-	-	5.1	-	-	-	-	-	-	-	5.9	-	-
60 cents	-	-	-	.9	-	-	-	-	-	-	-	1.1	-
Uniform percentage	2.6	2.4	2.4	-	-	1.6	-	-	2.8	2.8	2.8	-	-
10 percent	2.4	2.4	2.4	-	-	-	-	-	2.8	2.8	2.8	-	-
Over 15 and under 20 percent	.2	-	-	-	-	1.6	-	-	-	-	-	-	-
Uniform cents per hour plus lunch	-	6.4	6.4	-	(3)	-	3.4	3.4	-	6.8	6.8	-	(3)

[1] Workers assigned to rotating shifts work alternately on day, evening, and night schedules. Workers assigned to fixed shifts work regularly on either a day, evening, or night schedule.

[2] For definition of the South, see appendix table A-1, footnote 1.

[3] Less than .05 percent

Table 8. Paid holidays

(Percent of production workers in synthetic fibers manufacturing establishments with formal provisions for paid holidays, South,[1] August 1981)

Number of paid holidays	All establishments	Cellulosic	Noncellulosic
All workers	100	100	100
Workers in establishments providing paid holidays	100	100	100
Under 8 days	1	-	1
8 days	2	15	-
9 days	37	76	31
10 days	6	-	8
11 days	50	8	56
12 days	4	-	5

[1] For definition of the South, see appendix table A-1, footnote 1.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 9. Paid vacations

(Percent of production workers in synthetic fibers manufacturing establishments with formal provisions for paid vacations, South,[1] August 1981)

Vacation policy	All establishments	Cellulosic	Noncellulosic
All workers	100	100	100
Method of payment			
Workers in establishments providing paid vacations	100	100	100
Length-of-time payment	75	24	83
Percentage payment	25	76	17
Amount of vacation pay[2]			
After 6 months of service:			
Under 1 week	10	43	5
1 week	15	-	17
Over 1 and under 2 weeks	10	9	10
After 1 year of service:			
1 week	30	91	20
Over 1 and under 2 weeks	10	9	10
2 weeks	56	-	65
Over 2 and under 3 weeks	4	-	5
After 2 years of service:			
1 week	19	33	16
Over 1 and under 2 weeks	1	-	1
2 weeks	67	58	68
Over 2 and under 3 weeks	4	-	5
Over 3 and under 4 weeks	10	9	10
After 3 years of service:			
1 week	(3)	-	(3)
Over 1 and under 2 weeks	1	-	1
2 weeks	85	91	84
Over 2 and under 3 weeks	4	-	5
Over 3 and under 4 weeks	10	9	10
After 5 years of service:			
1 week	(3)	-	(3)
2 weeks	16	91	3
Over 2 and under 3 weeks	1	-	1
3 weeks	74	-	86
Over 3 and under 4 weeks	10	9	10
After 10 years of service:			
1 week	(3)	-	(3)
2 weeks	2	15	(3)
3 weeks	13	76	3
Over 3 and under 4 weeks	5	-	6
4 weeks	70	-	81
Over 5 and under 6 weeks	10	9	10
Amount of vacation pay[2]—Continued			
After 12 years of service:			
1 week	(3)	-	(3)
2 weeks	(3)	-	(3)
3 weeks	15	91	3
Over 3 and under 4 weeks	5	-	6
4 weeks	70	-	81
Over 5 and under 6 weeks	10	9	10
After 15 years of service:			
1 week	(3)	-	(3)
2 weeks	(3)	-	(3)
3 weeks	2	15	-
Over 3 and under 4 weeks	1	-	1
4 weeks	87	76	89
7 weeks	10	9	10
After 20 years of service:			
1 week	(3)	-	(3)
2 weeks	(3)	-	(3)
Over 3 and under 4 weeks	1	-	1
4 weeks	16	91	3
Over 4 and under 5 weeks	4	-	5
5 weeks	69	-	81
Over 7 weeks	10	9	10
After 25 years of service:			
1 week	(3)	-	(3)
2 weeks	(3)	-	(3)
4 weeks	6	15	4
Over 4 and under 5 weeks	4	-	5
5 weeks	80	76	81
Over 7 weeks	10	9	10
After 30 years of service:[4]			
1 week	(3)	-	(3)
2 weeks	(3)	-	(3)
4 weeks	6	15	4
5 weeks	35	76	28
6 weeks	49	-	57
Over 7 weeks	10	9	10

[1] For definition of the South, see appendix table A-1, footnote 1.

[2] Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes that occurred between 5 and 10 years.

[3] Less than 0.5 percent.

[4] Vacation provisions were virtually the same after longer periods of service.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 10. Health, insurance, and retirement plans

(Percent of production workers in synthetic fibers manufacturing establishments with specified health, insurance, and retirement plans,[1] South,[2] August 1981)

Type of plan	All establishments	Cellulosic	Noncellulosic
All workers	100	100	100
Workers in establishments providing:			
Life insurance	100	100	100
Noncontributory plans	99	100	99
Accidental death and dismemberment insurance	84	100	81
Noncontributory plans	84	100	81
Sickness and accident insurance or sick leave or both[3]	100	100	100
Sickness and accident insurance	64	100	58
Noncontributory plans	58	100	51
Sick leave (full pay, no waiting period)	41	-	48
Sick leave (partial pay or waiting period)	1	-	1
Long-term disability insurance	62	31	67
Noncontributory plans	49	8	55
Hospitalization insurance	100	100	100
Noncontributory plans	93	100	92
Dependent coverage	100	100	100
Noncontributory coverage	27	65	20
Surgical insurance	100	100	100
Noncontributory plans	93	100	92
Dependent coverage	100	100	100
Noncontributory coverage	27	65	20
Medical insurance	100	100	100
Noncontributory plans	93	100	92
Dependent coverage	100	100	100
Noncontributory coverage	27	65	20
Major medical insurance	63	85	59
Noncontributory plans	34	17	37
Dependent coverage	63	85	59
Noncontributory coverage	42	85	35
Retirement plans[4]	100	100	99
Pensions	100	100	99
Noncontributory plans	100	100	99

[1] Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and social security; however, plans required by State temporary disability laws are included if the employer contributes more than is legally required or the employees receive benefits exceeding legal requirements. "Noncontributory plans" include only those plans financed entirely by the employer.

[2] For definition of the South, see appendix table A-1, footnote 1.

[3] Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

[4] Unduplicated total of workers covered by pension plans and severance pay shown separately.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 11. Other selected benefits

(Percent of production workers in synthetic fibers manufacturing establishments with formal provisions for selected benefits,[1] South,[2] August 1981)

Benefit	All establishments	Cellulosic	Noncellulosic
Workers in establishments with provisions for:			
Funeral leave	100	100	100
Jury duty leave	100	100	100
Technological severance pay	28	67	21
Provisions for paid lunch	51	55	51
Over 20 and under 30 minutes	40	21	43
30 minutes	7	35	3
Over 30 and under 45 minutes	4	-	5

[1] For definition of items, see appendix A.

[2] For definition of the South, see appendix table A-1, footnote 1.

NOTE: Because of rounding, sums of individual items may not equal totals.

Appendix A. Scope and Method of Survey

Scope of survey

The survey included establishments engaged primarily in manufacturing cellulosic manmade fibers and other synthetic organic fibers (noncellulosic) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on textile processing equipment (industries 2823 and 2824 as defined in the 1972 edition of the *Standard Industrial Classification Manual* prepared by the U.S. Office of Management and Budget). Separate auxiliary units such as central offices were excluded. Also excluded were establishments located outside the South and establishments primarily engaged in manufacturing glass fibers.

Establishments studied were selected from those employing 20 workers or more at the time of the reference of the data used in compiling the universe lists. Table A-1 shows the number of establishments and workers estimated to be within the scope of the survey, as well as the number actually studied by the Bureau.

Products

Classification of establishments by product was based on the principal type of product manufactured. For example, if 60 percent of the total value of an establishment's production was cellulosic fibers, and 40 percent was noncellulosic fibers, all workers in that establishment were considered as producing cellulosic fibers.

Method of study

Data were obtained by personal visits of the Bureau's field representatives to a probability-based sample of establishments within the scope of the survey. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small establishments was studied. In combining the data, each establishment was given an appropriate weight. All estimates are presented, therefore, as relating to all establishments in the industry, excluding only those below the minimum size at the time of reference of the universe data.

Establishment definition

An establishment is defined for this study as a single physical location where industrial operations are performed. An establishment is not necessarily identical with a company, which may consist of one establishment or more.

Employment

Estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the industry's labor force, rather than as precise measures of employment.

Production workers

The terms "production workers" and "production and related workers," used interchangeably in this bulletin, include working supervisors and all nonsupervisory workers engaged in nonoffice activities. Administrative, executive, office, professional, and technical personnel, and force-account construction employees, who are used as a separate work force on the firm's own properties, are excluded.

Occupational classification

Occupational classification was based on a uniform set of job descriptions designed to take account of interestablishment and interarea variations in duties within the same job. (See appendix B for these descriptions.) The criteria for selection of the occupations were: The number of workers in the occupation; the usefulness of the data in collective bargaining; and appropriate representation of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, and handicapped, part-time, temporary, and probationary workers were not reported in the data for selected occupations but were included in the data for all production workers.

Wage data

Information on wages relates to straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living bonuses were included as part of the workers' regular pay. Nonproduction bonus payments, such as Christmas or yearend bonuses, were excluded.

Average (mean) hourly rates or earnings for each occupation or category of workers, such as production workers, were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were

Table A-1. Estimated number of establishments and employees within scope of survey and number studied, the South,[1] synthetic fibers manufacturing, August 1981

Industry branch	Number of establishments[2]		Workers in establishments		
	Within scope of study	Actually studied	Within scope of study		Total actually studied[3]
			Total[4]	Production workers	
All establishments	47	26	79,173	58,238	41,139
Cellulosic fibers establishments	7	7	10,173	8,119	10,173
Noncellulosic fibers establishments	40	19	69,000	50,119	30,966

[1] The South as used in this study includes: Alabama, Delaware, District of Columbia, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

[2] Includes only those establishments with 20 workers or more at the time of reference of the universe data.

[3] Data relate to total employment in the establishments visited.

[4] Includes executive, professional, office, and other workers in addition to the production worker category shown separately.

obtained by dividing straight-time salary by normal (or standard) hours to which the salary corresponds.

The *median* designates position; that is, one-half of the employees surveyed received more than this rate and one-half received less. The *middle range* is defined by two rates of pay such that one-fourth of the employees earned less than the lower of these rates and one-fourth earned more than the higher rate.

Size of community

Tabulations by size of community pertain to metropolitan and nonmetropolitan areas. The term "metropolitan areas," as used in this bulletin, refers to the Standard Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through February 1974. Except in New England, a Standard Metropolitan Statistical Area is defined as a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more. Counties contiguous to the one containing such a city are included in a Standard Metropolitan Statistical Area if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, where the city and town are administratively more important than the county, they are the units used in defining Standard Metropolitan Statistical Areas.

Labor-management agreements

Separate wage data are presented, where possible, for establishments that had (1) a majority of the production workers covered by labor-management contracts, and (2) none or a minority of the production workers covered by labor-management contracts.

Method of wage payment

Tabulations by method of wage payment relate to the number of workers paid under the various time and incentive wage systems. Formal rate structures for time-rated workers provide single rates or a range of rates for individual job categories. In the absence of a formal rate structure, pay rates are determined primarily by the qualifications of the individual worker. A single rate structure is one in which the same rate is paid to all experienced workers in the same job classification. Learners, apprentices, or probationary workers may be paid according to rate schedules which start below the single rate and permit the workers to achieve the full job rate over a period of time. An experienced worker occasionally may be paid above or below the single rate for special reasons, but such payments are exceptions. Range-of-rate plans are those in which the minimum, maximum, or both of these rates paid experienced workers for the same job are specified. Specific rates of individual workers within the range may be determined by merit, length of service, or a combination of these. Incentive workers are classified under piecework or bonus plans. Piecework is work for which a predetermined rate is paid for each unit of output. Production bonuses are for production in excess of a quota or for completion of a task in less than standard time.

Scheduled weekly hours

Data on weekly hours refer to the predominant work schedule for full-time production workers employed on the day shift.

Shift practices

Data relate to workers employed under the conditions specified. Workers assigned to rotating shifts work successively on day, evening, and night shifts. Workers assigned to fixed shifts work regularly on either a day, evening, or night schedule.

Establishment practices and supplementary wage provisions

Supplementary benefits in an establishment were considered applicable to all production workers if they applied to half or more of such workers in the establishment. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the establishment. Because of length-of-service and other eligibility requirements, the proportion of workers receiving the benefits may be smaller than estimated.

Paid holidays. Paid holiday provisions relate to full-day and half-day holidays provided annually.

Paid vacations. The summary of vacation plans is limited to formal arrangements and exclude informal plans whereby time off with pay is granted at the discretion of the employer or supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented represent the most common practices, but they do not necessarily reflect individual establishment provisions for progression. For example, changes in proportions indicated at 10 years of service may include changes which occurred between 5 and 10 years.

Health, insurance, and retirement plans. Data are presented for health, insurance, pension, and retirement severance plans for which the employer pays all or a part of the cost, excluding programs required by law such as workers' compensation and social security. Among plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability. Information is presented for all such plans to which the employer contributes at least a part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions,[1] plans are included only if the employer (1) contributes more than is legally required, or (2) provides the employees with benefits which exceed the requirements of the law.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided for (1) plans providing full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration of sick leave, sickness and accident insurance, or both, or after a specified period of disability (typically 6 months). Payments are made until the end of disability, a maximum age, or eligibility for retirement benefits. Payments may be full or partial, but are almost always reduced by social security, workers' compensation, and private pension benefits payable to the disabled employee.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be a form of self-insurance.

Major medical insurance, sometimes referred to as extended medical or catastrophe insurance, includes plans designed to cover employees for sickness or injury involving an expense which exceeds the normal coverage of hospitalization, medical, and surgical plans.

Tabulations of retirement pensions are limited to plans which provide regular payments for the remainder of the retiree's life. Data are presented separately for retirement severance pay (one payment or several over a specified period of time) made to employees on retirement. Establishments providing both retirement severance payments and retirement pensions to employees were considered as having both retirement pensions and retirement severance plans; however, establishments having optional plans providing employees a choice of either retirement severance payments or pensions were considered as having only retirement pension benefits.

Paid funeral and jury-duty leave. Data for paid funeral and jury-duty leave relate to formal plans which provide at least partial payment for time lost as a result of attending funerals of specified family members or serving as a juror.

Technological severance pay. Data relate to formal plans providing for payments to employees permanently separated from the company because of a technological change or plant closing.

[1] The temporary disability insurance laws in California and Rhode Island do not require employer contributions.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors, apprentices, learners, beginners, trainees, and part-time, temporary, and probationary workers.

Maintenance

Carpenter, maintenance

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves most of following: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Electrician, maintenance

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generating, distribution, or utilization of electric energy in an establishment. Work involves most of the following: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layout, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Helper, maintenance trades

Assists one or more workers in the skilled maintenance trades, by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working areas, machines, and equipment; assisting worker by holding materials or tools; performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade. In some trades, the helper is confined to supplying, lifting, and holding materials and tools and cleaning working areas; and in others, he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

Instrument repairer

Installs, maintains, adjusts, and repairs manual, pneumatic, electric, and/or electronic measuring, recording, regulating instruments in a chemical plant. Work involves most of the following: Inspecting, testing, and adjusting instruments periodically, determining cause of trouble in instruments not functioning properly and making necessary repairs or adjustments; disconnecting inaccurate or damaged instruments and replacing them; examining mechanism and cleaning parts; replacing worn or broken parts; assembling instruments and installing them on testing apparatus; and calibrating instruments to established standard.

Machinist, maintenance

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out of work; using a va-

riety of machinist's handtools and precision measuring instruments, setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feed, and speed of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for the work; fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

Mechanic, general

Performs the work of two or more maintenance trades rather than specializing in only one trade or one type of maintenance work. In general, the work of a general mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

The classification includes workers who regularly perform two or more types of skilled maintenance work within a section or department of a large establishment such as pipefitting, millwrighting, welding, machining, machine and equipment repairing, and carpentry, among others. It also includes workers who maintain and repair machines, mechanical and electrical equipment, and/or the structure of a small establishment where specialization in maintenance work is impractical. Workers who only make minor repairs or adjustments are excluded.

Millwright

Installs new machines or heavy equipment and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves most of the following: Planning and laying out of the work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing of equipment; selecting standard tools, equipment, and parts to be used; installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires rounded training and experience in the trade acquired through a formal apprenticship or equivalent training and experience.

Pipefitter, maintenance

Installs or repairs water, steam, gas, or other types of pipe and pipe fittings in an establishment. Work involves most of the following: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machine; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and sizes of pipe required; making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticship or equivalent training and experience. Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

Chemical preparation

Chemical operator, cellulosic fiber

Operates equipment in which raw materials are treated chemically to produce a solution from which rayon or acetate fibers are spun. Work consists of most of the following: Regulates the flow of materials by turning valves; observes and controls temperatures and time elements as prescribed; tends pumps, tanks, vessels, and other related equipment. May take batch samples for the testing laboratory.

Workers in this classification are usually designated according to their specific function, such as: Acid mixer, barratte operator, churn operator, correction man, and steeping-press operator.

Chemical operator, noncellulosic fiber

Controls the conversion of chemical intermediates to produce a solution for spinning noncellulosic fibers by operating one of several types of equipment such as autoclaves, reactors, retorts, etc. Observes a control board to determine the proper functioning of the chemical process as prescribed; recognizes and reports off-standard conditions, taking necessary corrective action. Maintains proper flow of the intermediates and product by opening and closing valves, observes, records, and controls temperature and time elements, operates pumps, tanks, vessels, and other related equipment. May obtain samples for testing laboratory and keep prescribed records of production.

Workers in this classification are usually designated according to their specific functions, such as: Polymer preparation operator, solution operator, and salt-house operator.

Spinning

Jet handler

(Spinneret cleaner)

Cleans from spinnerets any gummy residue left by spinning solution to prevent clogging of the tiny holes through which solution is forced. Dismounts spinnerets from holders and washes in acid bath; blows holes clean

with compressed air, examines spinnerets for defects; and remounts spinneret in holder.

Spinner, dry process

Tends spinning machine that converts a liquid spinning solution into a solid filament by the dry process method of spinning. Work involves one or more of the following: Correcting off-standard conditions as the spinning solution is forced through the spinneret and coagulated into a filament by warm air; wiping and spraying spinnerets regularly to insure an even flow of the solution; stringing up and establishing proper threadline by passing filaments through guides and attaching to the winding device; and doffing (removing) full spinning packages from the machine. Workers may also keep records and take samples for laboratory analysis. Where filaments are passed directly from spinnerets on one floor to draw (stretching) machines on floor below, workers on both floors (topmen and bottom men) are classified in this occupation.

Spinner, wet process

Tends spinning machine that forces liquid solution through tiny holes in the spinneret (metal disc) into a solidifying acid bath and forms the resulting filaments into a thread. Duties include most of the following: Collects ends of filaments from the solidifying bath to form an untwisted thread which is passed over a wheel, through guides, and attached to a winding device, removes (doffs) full spinning boxes; makes periodic inspections, repairing breaks as necessary.

Finishing

Creel tender

Tends creel mechanism of drawtwist machines or warpers by replacing empty packages of yarn or tow with full ones. Assists in stringing yarn from creel through guides to the drawtwist machine or warper; ties end of yarn on new package to end of yarn from exhausted package; inspects product as it is drawn from creel and reports off-standard conditions. May take samples and keep production records.

Drawtwist operator

(Drawwind operator)

Operates a drawtwist machine that draws and twists noncellulosic yarn from a spinning package. Work includes most of the following: Stocks machines with spinning bobbins; strings up positions by threading guides, wrapping rolls, and following standard procedures and practices; repairs breaks and inspects for off-standard positions; patrols assignment for threadline breaks and improper alignment; starts and doffs machines according to schedule. May keep production records.

Thrower

(Twister)

Tends machine that twists rayon or acetate yarn in plants where box or cake method of spinning is not used. Places full bobbins and empty spools on twisting (throwing) machine, starts end of thread from bobbin and spool, ties together ends of broken threads, and removes empty bobbins and full spools from machine.

Tow operator

Operates any of several types of machines processing tow (a ropelike collection of filaments) immediately after spinning and just before packing. Typical of such operations are the following: (1) Take-up operator—operates machine that takes tow from the conveyor belt of the spinning machine; (2) crimper operator—operates machine that places a crimp in the tow to enable the fibers to be twisted into yarn; (3) piddler machine operator—operates a machine whose mechanism swings back and forth, lapping the tow into transport cans; and (4) cutter operator—operates machine that cuts crimped tow into specified lengths.

Warper operator

(Beamer)

Operates machine that draws yarn from many individual packages and winds the strands parallel onto beams to form a warp. Work involves most of the following: Threads ends of individual strands of yarn through guides, drop wires, and comb of machine, following directions of a drawing to obtain a prescribed arrangement; fastens ends of all strands to the beam mounted in the machine; operates the powered winding mechanism to draw the yarn from the packages and wind it on the beam; and pieces together broken ends of yarn by twisting or tying the ends together. May also tend creel mechanism of machine.

Washer operator

Places packages of synthetic yarn in a washing machine to remove the acid used in the spinning process. Receives full packages from the spinning machine and places on racks of the washing machine; starts machine which forces water through the packages, washing the acid from the thread; removes cleaned packages and places on racks for drying.

Winder, yarn

Tends the operation of one or more of the various type machines used to wind twisted yarn from one form to another for shipment or to facilitate handling in later processing. Work involves: Placing packages of yarn on reels or spindles of machine; threading yarn through the various guides; piecing-up broken ends by twisting or tying the two ends together; replacing fully wound packages with empty bobbins, cones, tubes, or quills.

Inspection and testing

Laboratory assistant

(Technician; chemical control operator)

Performs standard and routine chemical laboratory tests or special analytical control work under the direction of a chemist or foreman. Among the types of tests that may be carried on by the laboratory assistant to determine properties of materials are viscosity tests, specific gravity tests, volumetric analysis, and colorimetric analysis. Keeps accurate records of test observations and reports to supervisor. Classificaton does not include workers performing physical tests. See Physical-test operator.

Physical test operator

Performs standard and routine physical tests to determine the specific characteristics of continuous filament yarn, staple yarn, or tow. Uses instruments and specifically designed machines, under the supervision of the laboratory foreman, to make the following types of tests: Denier, tenacity, twist determination, staple fiber length, crimp count on tow and staple, tare weight, moisture analysis, filament count, and abrasion resistance.

Material movement and handling

Laborer, material handling

(Loader and unloader, handler and stacker; shelver; trucker; stocker; warehouseman; warehouse helper)

A worker employed in a warehouse or manufacturing plant whose duties involve one or more of the following: Loading and unloading various materials and merchandise on or from freight cars, trucks, or other transporting devices; unpacking, shelving, or placing materials or merchandise in proper storage location; transporting materials or merchandise by hand, truck, car, or wheelbarrow to proper location. If primary duty is to operate power truck, classify as power-truck operator.

Stock clerk

Receives, stores, and issues equipment, material, merchandise, or tools in a stockroom or storeroom. Work involves a combination of the following: Checking incoming orders; storing supplies; applying identifications to articles; issuing supplies; taking periodic inventory or keeping perpetual inventory; making up necessary reports; requesting or ordering supplies when needed. Stockroom laborers, tool crib attendants, and employees who supervise stock clerks and laborers are excluded.

Power-truck operator

Operates a manually-controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of truck as follows:

Forklift operator

Power-truck operator, other than forklift

Custodial

Guard

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May also help visitors or customers by answering questions and giving directions.

Janitor, porter, or cleaner

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises in an office, apartment house, or commercial or other establishment. Duties involve a combination of the following: Sweeping, mopping, and/or scrubbing and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

Industry Wage Surveys

The most recent reports providing occupational wage data for industries currently included in the Bureau's program of industry wage surveys are listed below. Copies are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from any of its regional offices, and from the regional offices of the Bureau of Labor Statistics shown on the inside back cover. Bulletins that are out of stock are available for reference at leading public, college, or university libraries, or at the Bureau's Washington or regional sales offices.

Manufacturing

Basic Iron and Steel, 1978-1979. BLS Bulletin 2064
Cigarette Manufacturing, 1981. BLS Bulletin 2132
Corrugated and Solid Fiber Boxes, 1981. BLS Bulletin 2138
Drug Manufacturing, 1978. BLS Bulletin 2077
Fabricated Structural Metals, 1979. BLS Bulletin 2094
Flour and Other Grain Mill Products, 1977. BLS Bulletin 2026
Hosiery Manufacturing, 1981. BLS Bulletin 2151
Industrial Chemicals, 1981. BLS Bulletin 2136
Iron and Steel Foundries, 1979. BLS Bulletin 2085
Machinery Manufacturing, 1981. BLS Bulletin 2124
Meat Products, 1979. BLS Bulletin 2082
Men's and Boys' Shirts and Nightwear, 1981. BLS Bulletin 2131
Men's and Boys' Suits and Coats, 1979. BLS Bulletin 2073
Men's and Women's Footwear, 1980. BLS Bulletin 2118
Millwork, 1979. BLS Bulletin 2083
Miscellaneous Plastics Products, 1979. BLS Bulletin 2103
Motor Vehicles and Parts, 1973-74. BLS Bulletin 1912
Petroleum Refining, 1981. BLS Bulletin 2143
Pressed or Blown Glass and Glassware, 1980. BLS Bulletin 2109
Pulp, Paper, and Paperboard Mills, 1977. BLS Bulletin 2008
Semiconductors, 1977. BLS Bulletin 2021
Shipbuilding and Repairing, 1976. BLS Bulletin 1968
Structural Clay Products, 1980. BLS Bulletin 2139
Synthetic Fibers, 1981. BLS Bulletin 2150
Textile Mills and Textile Dyeing and Finishing Plants, 1980. BLS Bulletin 2122
Women's and Misses' Dresses, 1977. BLS Bulletin 2007
Wood Household Furniture, 1979. BLS Bulletin 2087

Nonmanufacturing

Appliance Repair Shops, 1978. BLS Bulletin 2067
Auto Dealer Repair Shops, 1978. BLS Bulletin 2060
Banking, 1980. BLS Bulletin 2099
Bituminous Coal Mining, 1976. BLS Bulletin 1999
Certificated Air Carriers, 1980. BLS Bulletin 2129
Communications, 1980. BLS Bulletin 2126
Computer and Data Processing Services, 1978. BLS Bulletin 2028
Contract Cleaning Services, 1981. BLS Bulletin 2152
Contract Construction, 1973. BLS Bulletin 1911
Department Stores, 1981. BLS Bulletin 2147
Electric and Gas Utilities, 1978. BLS Bulletin 2040
Hotels and Motels, 1978. BLS Bulletin 2055
Life Insurance, 1980. BLS Bulletin 2119
Metal Mining, 1977. BLS Bulletin 2017
Nursing and Personal Care Facilities, 1981. BLS Bulletin 2142
Oil and Gas Extraction, 1977. BLS Bulletin 2014
Savings and Loan Associations, 1980. BLS Bulletin 2106

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